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### THE GENUS PALMORCHIS

BY

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THE HISTORY of the genus *Palmorchis* is not only interesting but instructive. In 1877, this genus, including two species, *P. pubescens* and *P. sobralioides*, both natives of Brazil, was proposed by Barbosa Rodrigues.

In 1898, R. A. Rolfe published *Jenmania* typified by *Jenmania elata*, a plant of Trinidad and British Guiana. In the same year, Zahlbruckner changed the name *Jenmania* to *Rolfea* in honor of Rolfe, because the name *Jenmania* was preoccupied by that of a lichen.

In the original diagnosis of *Jenmania elata*, Rolfe compared it with the genus *Palmorchis* and considered it to be distinct. However, in view of a later published figure and description of *Rolfea elata* (Hook. Icon. Pl. 10, pt. 4 (1913) t. 2989), the separation of these two concepts seems to us unjustifiable.

In a comparison between the description of *Palmorchis pubescens* and of *Rolfea elata*, the only significant differences appear to be that in *Palmorchis* the petals are described and illustrated as being slightly broader than the sepals and the clinandrium as being provided on each side with a small tooth—characters which do not appear in *Rolfea*.

In 1901, Cogniaux referred the two species described under *Palmorchis* to *Sobralia* naming them *S. pubescens* and *S. Rodriguesii*. It seems to us inconceivable, how-

ever, that these two small-flowered plants, strikingly distinguished by having the disc of the lip strongly adnate to the lower part of the column, should be included in *Sobralia* which commonly has large flowers and a lip which is entirely free from the column. In his description of *Sobralia pubescens*, however, Cogniaux did much toward clarifying our problem, not only by amplifying the original description of *Palmorchis pubescens*, but even more by including a floral analysis of the plant.

In 1920, Schlechter proposed the concept *Neobartlettia*. Despite its characterization of being different in habit from *Rolfea* and having a lip which is free from the column, the genus actually shows in its component species a habit very similar to *Rolfea*, as well as to the other members of the *Palmorchis* group, and a lip of which the disc is always distinctly adnate to the lower part of the column. In fact, this adnation is quite evident in a flower taken from an isotype of *Neobartlettia Kuhlmannii* Schltr., and such adnation is specified in the original description of *N. lobulata* Mansf.

*Palmorchis* (as we understand it) is a small genus of orchids thus far consisting of only six species centering in northern South America and extending to Trinidad and Panama.

In vegetative appearance this genus resembles *Corymborchis* and *Tropidia*, but is readily separated from them by the adnation of the lower part of the disc of the lip to the column. This adnation of the lip to the column recalls the structure of the flowers in the genus *Vanilla*; however, the habit of *Palmorchis* and *Vanilla* is very dissimilar.

According to Pfitzer's systematic key to the Orchidaceae (in Engler and Prantl Die Natürlichen Pflanzenfamilien), *Palmorchis* is in part referable to the Tropidieae (containing *Tropidia* and *Corymborchis*). In the structure



of the column, however, this genus is widely divergent from the Tropicidae. In *Palmorchis* the anther is not erect on the back of the column, nor are the pollinia distinctly powdery as in the Tropicidae; but the anther is incumbent lying on the rostellum on the anterior face of the column and the pollinia appear to be more or less waxy or at least not readily pulveraceous.

According to Schlechter (Das System der Orchidaceen, in Notizbl. Bot. Gart. Berlin 9 (1926) 563), the genera *Rolfea* and *Neobartlettia* [= *Palmorchis*] fall into the Polychondreae (with soft, granular pollinia) and then into the subtribe Tropicidae. In this treatment, Schlechter makes the error of including the concepts *Rolfea* and *Neobartlettia* (with incumbent anthers) in the group with *Tropidia* and *Corymborchis* which have erect anthers. Of even more basic importance, it seems to us, the concept *Palmorchis*, as represented by *Rolfea Powellii*, has pollinia which are not powdery as in the Tropicidae but are somewhat waxy or at least not readily pulveraceous. On this basis, following Schlechter's system, the genus *Palmorchis* should be referred to the tribe Kerosphaereae and then to the subtribe Liparideae. But obviously the genera of the Liparideae are widely dissimilar to the concept *Palmorchis*.

In 1937, Mansfeld (Über das System der Orchidaceae-Monandrae, in Notizbl. Bot. Gart. Berlin 13, p. 666) excluded *Rolfea* and *Neobartlettia* from the Tropicidiinae (or Tropicidae). He placed them in the tribe Kerosphaereae, and then with some uncertainty in the subtribe Sobraliinae.

It thus appears that, whatever system of classification we attempt to use, *Palmorchis* occupies an uncertain position. The genus seems to stand alone and we propose for it the subtribal name Palmorchideae to be placed in the proximity of the Liparideae.

The scarcity of herbarium material in this genus has made it difficult to arrive at satisfactory conclusions concerning the specific delimitations of some of the concepts.

**Palmorchis** *Rodrigues* Gen. & Sp. Orch. Nov. 1 (1877) 169.

*Jenmania* Rolfe in Kew Bull. 1898: 198, non Wächter in Flora 84 (1897) 349.

*Rolfea* Zahlbruckner in Journ. Bot. 36 (1898) 493.

*Neobartlettia* Schlechter in Fedde Repert. 16 (1920) 440.

Perianth campanulate or connivent. Sepals and petals similar, oblanceolate or oblong-oblanceolate (petals rarely linear). Lip much broader than the other segments, more or less distinctly 3-lobed above the middle or at the apex, adnate to the lower part of the column by the central part of the disc; disc pilose or glabrous, adorned with thickened nerves or calli. Column long and slender, arcuate above; clinandrium short, concave; rostellum short, convex; stigmatic orifice transversely oval. Anther terminal, opercular, incumbent, hemispheric-conic, 2-celled. Capsule slender, elongate, terete, with the column persistent.—Tall, terrestrial, caespitose herbs with the habit of *Corymborchis*. Leaves several, elliptic or elliptic-lanceolate, plicate with several prominent nerves. Inflorescence terminal or lateral or both, either racemose or paniculate.

#### KEY TO THE SPECIES AT PRESENT RECOGNIZED

Flowers more than 1.5 cm. long

Mid-lobe of the lip minute, triangular-ovate; disc with 4 tubercles toward the apex 6. *P. sobralioides*

Mid-lobe of the lip conspicuous, transverse, retuse or bilobed; disc without tubercles

Flowers about 1.7 cm. long; disc of lip with 5 longitudinal lamellae 4. *P. Powellii*

Flowers about 2 cm. or more long; disc of lip with 3 central thickened nerves, at least above 5. *P. pubescens*

Flowers less than 1.2 cm. long



Mid-lobe of the lip obovate-reniform, retuse or bilobed and apiculate

3. *P. pandurata*

Mid-lobe of the lip triangular or ligulate, entire

Disc of the lip round-obovate in outline; mid-lobe narrowly ligulate

1. *P. guianensis*

Disc of the lip cuneate with a subtruncate apex; mid-lobe broadly triangular

2. *P. lobulata*

1. ***Palmorchis guianensis* (Schltr.) Schweinfurth & Correll comb. nov.**

*Neobartlettia guianensis* Schlechter in Fedde Repert. 16 (1920) 441.

*Neobartlettia Kuhlmannii* Schlechter in Beihefte Bot. Centralbl. 42, Abt. 2 (1925) 76.

The only notable difference between *Neobartlettia Kuhlmannii*, of which we have seen an isotype, and *N. guianensis*, represented by apparently authentic material, consists in the shorter and narrower leaves of *N. Kuhlmannii*. In the flowers of the latter concept, the column is glabrous (as described in *N. guianensis*) and not pilose in front as stated for *N. Kuhlmannii*. Also, the mid-lobe of the lip is carinate-thickened, as described in *N. guianensis*. This species is found in British Guiana and Brazil.

2. ***Palmorchis lobulata* (Mansf.) Schweinfurth & Correll comb. nov.**

*Neobartlettia lobulata* Mansfeld in Notizbl. Bot. Gart. Berlin 10 (1928) 237.

This species is closely allied to *P. guianensis* and, when additional material becomes available, it may prove to be conspecific. It is found in Peru and Colombia.

3. ***Palmorchis pandurata* Schweinfurth & Correll sp. nov.**

Herba caespitosa, robusta. Radices fibratae, valde tomentosae. Caules in parte inferiore vaginis cylindraceis arctis omnino obtecti, in parte superiore laxe foliati. Folia plura, elliptica vel oblongo-elliptica, acuminata, submem-

branacea, nervis pluribus conspicuis praedita, laminis infimis et supremis multo minoribus. Inflorescentia terminalis, leviter paniculata. Pedunculi pars inferior gracilis, flexuosa; pars superior dense pluriflora, bractea oblongo-elliptica subtenta. Bracteae oblongo-lanceolatae, nervosae, patentes. Flores parvi. Sepalum dorsale anguste oblanceolato-oblongum, naviculare, subobtusum. Sepala lateralialia lineari-oblanceolata, obliqua, valde navicularia, acuta, dorso carinata. Petala falcato-linearialia. Labellum columnae basi alte adnatum, in laminam obovato-panduratum expansum; lamina leviter trilobata; lobi laterales complanato-semiobovati, antice subacuti; lobus intermedius obovato-reniformis, valde retusus cum apiculo; discus callo U-formi crasso ornatus. Columna gracilis, superne leviter arcuata, glabra, antice concava.

Plant caespitose, coarse, glabrous, with numerous long fibrous roots which are densely tomentose, 6 dm. tall. Stem robust, terete, up to 3.9 dm. long, 4-5 mm. in diameter, provided below with scarious appressed tubular sheaths, loosely 4- or 5-leaved above. Leaves large, elliptic or elliptic-oblong, acute or shortly acuminate, conspicuously 9- to 13-nerved, up to 27.5 cm. long and 8 cm. wide, the lowermost and uppermost often much smaller, plicate, submembranaceous, abruptly tapering into the sheathing petioles of which the bases are imbricating. Inflorescence terminal, lax and flexuous, up to 10 cm. long; peduncle filiform, provided above the middle with a narrowly lanceolate foliaceous bract which is up to 5.6 cm. long; flowers dense, more or less paniculate. Floral bracts ovate to oblong-lanceolate, shortly acuminate, concave, membranaceous, with five or more conspicuous light brown nerves, 8-12 mm. long, 2-3 mm. wide below the middle. Flowers small. Dorsal sepal narrowly oblanceolate-oblong, subobtuse, navicular especially above, dorsally carinate with the keel sparingly ciliate, 5-nerved,



with cross-veins above the middle, about 7.5 mm. long and 1.5 mm. wide. Lateral sepals narrowly and obliquely oblanceolate-oblong, subobtusate, strongly navicular especially above, dorsally carinate with the sparingly ciliate keel broadened near the apex and extending as an apicule, 5-nerved, with cross-veins above the middle, 6.6-7 mm. long, about 1.5 mm. wide near the apex. Petals linear-falcate, subacute to shortly acute, 3-nerved, with a few cross-veins near the apex, about 6.5 mm. long. Lip adnate to the column by a thickened mid-nerve for almost one third the length of the lamina, obovate-pandurate in outline from a narrowly cuneate pubescent base, 6.6 mm. long; lateral lobes shallowly semiobovate, subacute in front with the anterior margins fleshy-thickened, the lower margins ciliate, upturned and clasping the column in natural position, about 3 mm. wide across the lobes when spread out; mid-lobe obovate-reniform, retuse or bilobed and apiculate with the lobes spreading and irregularly erose-ciliate, about 3 mm. wide; disc pubescent at the base, with conspicuously branching veins above, provided in the constricted portion with a U-shaped fleshy callus and a more or less distinct fleshy thickening between the lateral arms of the callus. Column slender, glabrous, with two narrow lateral wings on the anterior surface, somewhat arcuate above, about 6 mm. long; anther terminal, semiorbicular-conic, incumbent, operculate with a slender hinge, 2-celled.

In regard to the flowers, *Palmorchis pandurata* has a lip resembling in size that of *P. guianensis* but in outline the lip suggests that of *P. pubescens*.

TROPICAL AMERICA: S. Joseito<sup>1</sup>, Lehmann B.T. 48 (TYPE in Herb. Gray No. 2083; ISOTYPE in Herb. N.Y. Bot. Gard.).

<sup>1</sup>The exact location of this place could not be ascertained. However, we did learn from authorities in Colombia that the place is not in that country.

## EXPLANATION OF THE ILLUSTRATION

**PALMORCHIS PANDURATA** *C. Schweinf. & Correll*. 1, plant, one half natural size. 2, inflorescence, three fourths natural size. 3, flower, from side, five times natural size. 4, column, from side, five times natural size. 5, lateral sepal, five times natural size. 6, dorsal sepal, five times natural size. 7, petal, five times natural size. 8, lip, expanded, five times natural size.

*Drawn February 1940 by G.W. DILLON*





**PALMORCHIS**  
*pandurata*  
 C. Schweinf. & Correll





4. **Palmorchis Powellii** (*Ames*) *Schweinfurth* & *Correll* comb. nov.

*Rolfea Powellii* Ames in Sched. Orch. 7 (1924) 32, fig. 6.

This species is readily distinguished from *Palmorchis pubescens*, to which it is most closely allied, by its smaller stature, smaller flowers and 5-lamellate lip. It is found in Panama.

5. **Palmorchis pubescens** (as pubescentis) *Rodrigues* Gen. & Sp. Orch. Nov. 1 (1877) 170.

*Jenmania elata* Rolfe in Kew Bull. 1898: 198.

*Rolfea elata* Zahlbruckner in Journ. Bot. 36 (1898) 493.

*Sobralia pubescens* Cogniaux in Martius Fl. Bras. 3, pt. 5 (1901) 347, t. 73, fig. 2.

This species, which is the type of the genus, is the largest and most robust plant of the group, both vegetatively and florally. It is found in Trinidad, British Guiana and Brazil.

According to Rodrigues, this species is commonly known by the natives as *Baunilhasinha*, Little Vanilla.

6. **Palmorchis sobralioides** (as *Sobralioidis*) *Rodrigues* Gen. & Sp. Orch. Nov. 1 (1877) 170.

*Sobralia Rodriguesii* Cogniaux in Martius Fl. Bras. 3, pt. 5 (1901) 340.

*Neobartlettia sobralioides* Schlechter in Fedde Repert. 16 (1920) 441.

This species is characterized by its narrowly triangular-obovate lip which is about 12 mm. long and 8 mm. wide. It is lightly 3-lobed above with a short triangular-ovate mid-lobe. It is found in the province of Para, Brazil.





# NOMENCLATURE OF THE AMERICAN SPECIES OF CORYMBORCHIS

BY  
DONOVAN S. CORRELL

AT THE present time two species of *Corymborchis* are recognized in the Western Hemisphere: *Corymborchis flava* (Sw.) O.Ktze.—plants with yellow flowers having a lanceolate lip, and *Corymborchis cubensis* Acuña—plants with greenish or greenish white flowers having a linear-spatulate lip. A study of these species has revealed a most puzzling and interesting nomenclatorial history.

## I. CORYMBORCHIS FLAVA (Sw.) O.Ktze.

In 1788, Swartz (Nov. Gen. & Sp. Pl. Prodr., p. 119) briefly described *Serapias flava*, a Jamaican plant having yellow flowers. Later, in 1806 (Fl. Ind. Occ., p. 1417), he changed the name of this plant to *Neottia flava* and supplemented his earlier description with an excellent and more detailed account of the plant. In writing of the lip he said, “*Labellum* basi canaliculato-concavum, columnam amplexans, *lamina* longitudine petalorum, lanceolata, erecta, nec apice recurva.”

In 1840, Lindley (Gen. & Sp. Orch. Pl., p. 484) described *Chloidia decumbens*, a Brazilian plant having flowers with a lanceolate lip. He stated that the sepals were yellow and the petals white with the outer surface yellow. At the same time Lindley cited Swartz's species as possibly synonymous with his own. He wrote:

“I am uncertain whether this plant is the same as Swartz's *Neottia flava*. So far as the description given by that author is concerned, there is no material discrepancy; except that he says the leaves of his plant are 2 or 3 feet long. Here they are not a foot in length. But if the stem of *N. flava* is erect, and the petals of the same

coulour as the sepals, as seems to be implied, then it is probable that the West Indian plant forms a distinct species."

What basis Lindley had for his comments on the length of the leaves and the manner of growth of the stem in Swartz's plant is not clear. Swartz, so far as we know, did not mention the exact length of the leaves of his specimen. However, he did state that the stem of his plant was "geniculato"—not erect. In these two concepts the color of the flowers seems to have been identical.

Although it should have been evident that both Swartz and Lindley were concerned with the same species when they wrote their individual descriptions, authors, with few exceptions, have continued to maintain both names. Lindley's *Chloidia decumbens* has been accepted for South American plants; whereas Swartz's *Serapias flava*, in turn, has been adopted for West Indian and Central American plants. This arbitrary acceptance of these two names has not only resulted in utter confusion in literature, but has retarded a realization of the true identity of the species of *Corymborchis* in this hemisphere.

In 1891, Otto Kuntze (Rev. Gen. Pl. 2, p. 658) combined these two concepts, which have yellow flowers with a lanceolate lip, under the new combination, *Corymborchis flava*.

***Corymborchis flava* (Sw.) O. Kuntze** Rev. Gen. Pl. 2 (1891) 658.

*Serapias flava* Swartz Nov. Gen. & Sp. Pl. Prodr. (1788) 119.

*Neottia flava* Swartz Fl. Ind. Occ. (1806) 1417.

*Chloidia decumbens* Lindley Gen. & Sp. Orch. Pl. (1840) 484.



*Macrostylis decumbens* Reichenbach filius in Bonplandia 2 (1854) 11.

*Chloidia flava* Reichenbach filius in Walpers Ann. Bot. 6 (1863) 644.

*Corymbis flava* Hemsley in Godman & Salvin Biol. Centr.-Amer. Bot. 3 (1884) 297.

*Corymbis decumbens* Cogniaux in Martius Fl. Bras. 3, pt. 4 (1895) 276.

The lip, the character of greatest diagnostic importance in *Corymborchis flava*, is broadly lanceolate, canalliculate, 7-nerved, dorsally carinate along the mid-nerve, about 14 mm. long and 5-6 mm. wide below the middle. It is broadly rounded on each side at the base and has an acute, minutely undulate apex. The disc has a linear intramarginal callus on each side extending from the base almost to the apex.

*Corymborchis flava* is found in the West Indies, Costa Rica, El Salvador (?), Panama and South America.

#### SPECIMENS EXAMINED:

COSTA RICA: Prov. Cartago, Cartago, at 1300 meters alt., April 1888, *Juan J. Cooper 5999* (Gray Herb. & U.S. Nat. Herb.); Finca Navarro, at 1350 meters alt., May 21-23, 1906, *W.R. Maxon 644* (Herb. N.Y. Bot. Gard.); Peralta, tall terrestrial orchid, in deep forest, May 6, 1926, *C.H. Lankester 1127* (Herb. Ames); Navarro, tall terrestrial (3 ft.), on wooded hillside of Atlantic slope, at 2000-4000 feet alt., March 12, 1929, *C.H. Lankester 1243* (Herb. Ames).

EL SALVADOR: Sierra de Apaneca, in the region of Finca Colima, "Coyolillo", erect, 2-4 ft. high, in forest, Departamento de Ahuachapán, Jan. 17-19, 1922, *P.C. Standley 20132* [flowers poor] (Herb. Ames & U.S. Nat. Herb.). [Owing to the advanced condition of this collection the determination is open to question.

CUBA: Santa Catalina, terrestrial, 3-4 ft. high, Jan. 28, 1907, *C.F. Baker 970* (Herb. N.Y. Bot. Gard.); Oriente, Sierra Maestra, slopes of "El Gigante," a rather isolated top southeast of Bayamo on Rio Guisa, on the ground, at about 800 meters alt., Jan. 2, 1923, *E.L. Ekman 16070* (Herb. N.Y. Bot. Gard.); Suinor del Rio, 2 meters

high, in moist woods on limestone rocks at 480 meters alt., Range Mts., Aug. 1929, *Bro. Leon 14089* (Herb. N.Y. Bot. Gard.); Province of Santa Clara, Buenos Aires, Trinidad Hills, at 2500-3500 feet alt., Glen Ames (Mt. Harvard), July 24, 1930, *J.G. Jack 8078* (Herb. Ames).

GUADELOUPE: Terrestrial, rare, very humid places in woods, Bains Jaunes, 1895, *Père Duss 3813* (Gray Herb., U.S. Nat. Herb. & Herb. N.Y. Bot. Gard.).

PANAMA: Province of Chiriquí, terrestrial, flowers light cadmium, Llanos on slopes of Volcán de Chiriquí Viejo and along Río Chiriquí Viejo, at 1200 meters alt., April 20, 1935, *P.H. Allen 1009* (Herb. Ames).

COLOMBIA: Santa Marta, Onaca estate, erect, 3-4 ft. tall, two roots only observed in gully in mountain forest, 1898-1901, *H.H. Smith 2636* (Gray Herb. & Herb. N.Y. Bot. Gard.); Dept. Caldas, Rio Santa Rita, Salento, dense forest, at 1600-1800 meters alt., perianth yellow, July 29, 1922, *E.P. Killip & T.E. Hazen 8982*, (Gray Herb.); Dept. Caldas, "Canaan", south of Salento, forest, at 1400-1700 meters alt., perianth yellow, July 31, 1922, *F.W. Pennell 9061* (Herb. Ames).

VENEZUELA: prope coloniam Tovar, 1856-7, *A. Fendler 1397* (Gray Herb.).

BRAZIL: Sta. Catharina, Rio Uruguay (Statio viae ferreae) in silva prim. ad terram, c. 400 m., Feb. 25, 1916, *P. Dusén 17790* (Gray Herb.); Queluz-S. Paulo, 1916, *P. Campos Porto 225* (Herb. Ames); S. Paulo, Serra Negra, Planta da matta, June 6, 1927, *F. C. Hoehne 31593* (Herb. N.Y. Bot. Gard.).

PARAGUAY: in regione fluminis Alto Paraná, 1909-1910, *K. Fiebrig 6463* (Herb. Ames, Gray Herb., & U.S. Nat. Herb.); Cerro Scabay, in silva terrestre, petala flava, Dept. Altos, April 1920, *T. Rojas* (Herb. Ames).

## II. CORYMBORCHIS CUBENSIS *Acuña*

In 1939, Acuña included *Corymborchis flava* in his treatment of the Cuban orchids and also described a new species, *Corymborchis cubensis*, a plant whose greenish or greenish white flowers have a linear-spatulate lip.

It seems strange that the identity of this species was



not recognized prior to 1939, as specimens of it have been available in herbaria for more than one hundred and fifty years and it has been referred to in literature for about seventy-five years.

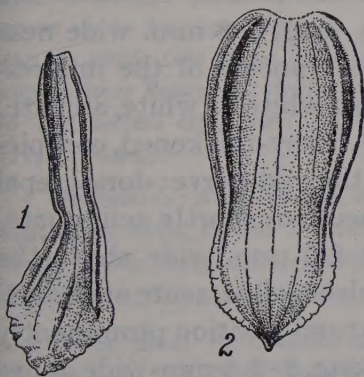
It is regrettable that Acuña's description of the species lacks a Latin diagnosis and consequently, according to the International Rules of Botanical Nomenclature, the name is not recognized as published. In order to validate Acuña's name, "cubensis", a Latin diagnosis and an amplified description are here given.

**Corymborchis cubensis** *Acuña* in *Estac. Exper. Agrón. Bol. Téc.* 60 (Cat. descr. Orquíd. Cub.) (1939) 51, ampl. *Correll*.

*Corymbis flava* Hemsl. sensu Cogniaux in *Urban Symb. Antill.* 6 (1909) 365. (exclude synonymy).

*Chloidia flava* Griseb. *Fl. Brit. West Ind.* (1864) 643. (as to description, not as to synonymy).

Planta robusta, elata. Caulis teres, erectus vel decumbens. Folia ampla, disticha, lanceolato-elliptica vel



1. *Corymborchis cubensis*, lip, three and one half times natural size.

2. *Corymborchis flava*, lip, three and one half times natural size.

Drawn March 1940 by G.W.DILLON

anguste lanceolata, longe acuminata, sessilia, plicata, prominenter nervosa. Inflorescentiae laterales, ex foliorum axillis exorientes, paniculatae; pedunculi graciles, squamosi. Bractee inflorescentiae ovato-triangularis vel lanceolatae, acutae vel acuminatae, concavae. Flores arcuati, patuli. Sepalum dorsale lineare vel lineari-oblongum, acutum vel acuminatum, car-

nosum, canaliculatum, dorso carinatum. Sepala lateralialia lineari-oblancheolata, acuta vel acuminata, falcata, canaliculata, dorso carinata. Petala linearia vel oblancheolata, acuta vel acuminata, obliqua, dorso carinata. Labellum erecto-patulum, in positu naturali supra medium arcuato-decurvatum, in laminam lineari-spathulatam expansum, acutum, canaliculatum, dorso carinatum; discus bicallosus, calli intramarginales lineares. Columna clavellata. Capsula cylindracea.

Plant simple, tall, stout, erect, up to 2 meters high, leaf-sheaths peduncles and lower surface of the young leaves usually lepidote with brownish scales. Stem terete, occasionally geniculate at the base. Leaves large, crowded on the upper part of the stem, elliptic-lanceolate to narrowly lanceolate, long-acuminate, distichous, sessile, plicate and conspicuously many-nerved, 15-45 cm. long, 3-7.5 cm. wide. Inflorescences one to three lax corymbose panicles, arising in the axils of the uppermost leaves, up to 12 cm. long; peduncle slender, usually somewhat lepidote, up to 8.5 cm. long. Floral bracts ovate-triangular to lanceolate, acute to acuminate, concave and clasping at the base, 3-18 mm. long, 2-3 mm. wide near the base, those subtending the branches of the inflorescence longest. Flowers greenish white or white, arcuate, spreading. Sepals canaliculate, fleshy-thickened, conspicuously dorsally carinate along the mid-nerve; dorsal sepal linear to linear-oblancheolate, acute or shortly acuminate, incurved, 12-19 mm. long, 2-2.5 mm. wide above the middle; lateral sepals linear-oblancheolate, acute or abruptly and shortly acuminate, in natural position prominently falcate-recurved, 10-15 mm. long, 2-2.5 mm. wide above the middle. Petals obliquely linear to oblancheolate, acute or abruptly and shortly acuminate, somewhat dilated and concave at the apex with the margins crisped, thinner than the sepals, conspicuously dorsally carinate along the



mid-nerve, 11–13.5 mm. long, 2.5–3.5 mm. wide above the middle. Lip in natural position arcuate-decurved above the middle, when spread out linear-spatulate, acute, cucullate-concave and rounded at the base, dorsally carinate along the thickened mid-nerve, 11–14 mm. long; basal portion linear, canaliculate, 6–8 mm. long, 1.5–3 mm. wide; apical portion dilated, ovate to oval, reflexed, with the margins usually undulate-crisped, 5–6 mm. long, 3–4.5 mm. wide; disc with an intramarginal linear callus on each side extending from the base to about the middle of the apical portion. Column clavellate, terete below, 10–12 mm. long. Capsule cylindrical, ribbed, 1.5–2 cm. long.

*Corymborchis cubensis* is found throughout the West Indies, Mexico and Central America.

#### SPECIMENS EXAMINED:

MEXICO: pr. Mirador, in sylvis umbrosis pinus, March 1842, *Liebmänn 6769* (U.S. Nat. Herb.); Mirador, March 1847, *Lehmann 13.15.16* (Gray Herb.); Vera Cruz, Mt. Armalonga, east of Tezonapa, Cordova-Tierra Blanca, very shady parts in virgin forest, in tough peaty soil, grows up to 2 meters high, fls. greenish white, at 550 meters alt., Jan. 5, 1934, *Otto Nagel 3585* (Herb. Ames); Vera Cruz, Mt. Armalonga, near Tezonapa, virgin forest in peaty soil, fls. greenish white, at 500 meters alt., Nov. 12, 1934, *Otto Nagel & Juan G. 4105A* (Herb. Ames).

GUATEMALA: Alta Verapaz, im Walde von Pansamalá, 1300 meters alt., Sept. 1886, *H. von Tuerckheim 1021* (Herb. Ames & U.S. Nat. Herb.); Alta Verapaz, Cubilgüitz, 350 m. alt., auf losem humusreichem Waldboden, Nov. 1903, *H. von Tuerckheim 8601* (U.S. Nat. Herb.).

COSTA RICA: El Silencio, at 800 meters alt., July 5, 1923, *J. Valerio 143* (U.S. Nat. Herb.).

CUBA: prope villam Monte Verde dictam, Cuba Orientali, Jan.-Jul. 1859, *C. Wright 1471* (Gray Herb.); 1860-1864, *C. Wright 3312* (Gray Herb.); El Yunque, Mt. Baracoa, 5 feet tall, March 1903, *L. M. Underwood & F.S. Earle 685* (Herb. N.Y. Bot. Gard.); Oriente, Farallon de La Perla, plant 3.5 dm. tall, flowers greenish, Feb. 14, 1911,



*J.A.Shafer 8763* (Herb. N.Y. Bot. Gard.); Oriente, side and top of El Yunque, Dec. 20, 1910, *J. A. Shafer 8001* (TYPE in Herb. N.Y. Bot. Gard.; DUPLICATE TYPE in Herb. Ames No. 14353); Loma del Gato, Sierra Maestra, Dec. 1920, *Fre. Clement 489* (Herb. N.Y. Bot. Gard.); Pinar del Rio, Pan de Gualjaibón, highest mountain of Sierra de los Organos, northern slope, in forest, on ground, Jan. 9, 1921, *E.L.Ekman 12753* (U.S. Nat. Herb.).

HAITI: Massif du Nord, Port-de-Paix, Haut-Piton, hard limestone, at 1100 meters alt., Sept. 19, 1925, *E. L. Ekman 4860* (Herb. Ames & U.S. Nat. Herb.); damp soil in thicket, mountain road to Morne Rochelois, Miragoane and vicinity, Sept. 9, 1927, *W.J.Eyerdam 497* (Gray Herb., U.S. Nat. Herb. & Herb. N.Y. Bot. Gard.).

SANTO DOMINGO: Barahona, in feuchten Bergwaldungen, Bl. weiss, 850 meters alt., Sept. 1910, *Peter Fuertes 507* (Herb. Ames).

PUERTO RICO: Sierrade Sares in sylva prim. ad Guajataca *rara*, February 16, 1887, *P.Sintenis 6237* (U.S. Nat. Herb.); prope Ullulado in sylva prim. ad Cayuro, March 9, 1887, *P.Sintenis 6367* (U.S. Nat. Herb.).

*Corymborchis cubensis* usually occurs at much lower altitudes than *C.flava*. Both species are very similar in habit, being about the same height, and with coarse reed-like terete stems which are leafy above. *Corymborchis cubensis* has a grayish, usually lepidote peduncle; whereas *C.flava* has a smooth, reddish, glossy peduncle. The ultimate branches of the inflorescence of *C. cubensis* are usually more in number than in *C.flava*, and are conspicuously arcuate-descending; whereas those of *C.flava* are fewer in number and are usually suberect or ascending. The flowers of *C. cubensis* are comparatively thin and delicate in contrast to the leathery and fleshy flowers of *C.flava*.

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